WE CLAIM:

1. A method of producing a chewing gum product containing a physically-modified antimicrobial agent in order to control the release rate of the antimicrobial agent comprising the steps of:

a) mixing a quantity of an antimicrobial agent with a modifying agent;

b) adding a quantity of the mixture to a chewing gum formulation to provide an antimicrobial agent level in the chewing gum formulation of from about 0.01% to about 5.0%.

2. The method of claim 1 wherein said modifying agent is an encapsulating agent.

3. The method of claim 1 wherein the antimicrobial agent and encapsulating agent are also mixed with a solvent and the resulting mixture is dried prior to being added to the chewing gum.

4. The method of claim 3 wherein the encapsulating material is selected from the group consisting of maltodextrin and gum arabic.

5. The method of claim 3 wherein the mixture is spray dried and the solvent is selected from the group consisting of alcohol and water.

6. The method of claim 1 wherein a high-potency sweetener selected from the group consisting of aspartame, alitame, salts of acesulfame, cyclamate and its salts, saccharine and its salts, thaumatin, monellin, dihydrochalcones and combinations thereof is mixed in the mixture in combination with the antimicrobial agent.

7. The method of claim 1 wherein the antimicrobial agent is selected from the group consisting of 1) 2,4,4-trichloro-2-hydroxydiphenyl ether, 2) cetylpyridinium chloride, 3) hexylresorcinol, and 4) chlorhexidine digluconate.

8. The method of claim 2 wherein the antimicrobial agent is fluid-bed coated with a solution of encapsulating agent and solvent in order to decrease the rate of release of the antimicrobial agent in the chewing gum.

9. The method of claim 8 wherein the solvent is selected from the group consisting of alcohol and water.

10. The method of claim 8 wherein the encapsulating material is selected from the group consisting of shellac and Zein.

11. The method of claim 8 wherein an additional high-potency sweetener selected from the group consisting of aspartame, alitame, salts of acesulfame, cyclamate and its salts, saccharin and its salts, thaumatin, monellin,

dihydrochalcones and combinations thereof is mixed in the mixture in combination with the antimicrobial agent.

12. The method of claim 8 wherein the antimicrobial agent is selected from the group consisting of 1) 2,4,4-trichloro-2-hydroxydiphenyl ether, 2) cetylpyridinium chloride, 3) hexylresorcinol, and 4) chlorhexidine digluconate.

13. The method of claim 2 wherein the antimicrobial agent is encapsulated by coacervation in order to decrease the rate of release of antimicrobial agent in chewing gum.

14. The method of claim 2 wherein the antimicrobial agent is mixed with a molten encapsulating agent and the antimicrobial agent is encapsulated by spray chilling in order to decrease the rate of release of the antimicrobial agent in the chewing gum.

15. The method of claim 14 wherein the encapsulating agent comprises wax.

16. The method of claim 2 wherein the antimicrobial agent is mixed with a polymer as the encapsulating agent and the resulting mixture is extruded into fibers in such a way as to encapsulate the antimicrobial agent in order to decrease the rate of release of the antimicrobial agent in the chewing gum.

17. The method of claim 16 wherein the polymer is selected from the group consisting of PVAC, hydroxypropyl cellulose, polyethylene and plastic polymers.

18. A method of producing a chewing gum containing physically-modified antimicrobial agents in order to control the release rate of the antimicrobial agent comprising the steps of:

a) mixing a quantity of the antimicrobial agent with an agglomerating agent and a solvent to partially coat the antimicrobial agent;

b) removing the solvent from the mixture of antimicrobial agent and agglomerating agent to form a dried material; and

c) adding a quantity of the dried material to a chewing gum formulation to provide an antimicrobial agent level in gum of from about .01% to about 5%.

19. The method of claim 18 wherein the level of coating on the agglomerated antimicrobial agent is at least about 5%.

20. The method of claim 18 wherein the level of coating on the agglomerated antimicrobial agent is at least about 15%.

21. The method of claim 18 wherein the level of coating on the agglomerated antimicrobial agent is at least about 20%.

22. The method of claim 18 wherein the dried material is ground to a powder prior to adding the dried material to the chewing gum.

23. The method of claim 1 wherein the antimicrobial agent is mixed with an absorbent as the modifying agent.

24. A method of producing a chewing gum product containing an antimicrobial agent wherein the antimicrobial agent is a part of a rolling compound applied on the chewing gum product.

25. A method of producing a chewing gum product containing an antimicrobial agent wherein the antimicrobial agent is a part of a coating on a chewing gum pellet.

26. The method of claim 1 wherein the antimicrobial agent comprises chlorhexidine digluconate.

27. A chewing gum product made according to the method of claim 1.